Phase Out of Methyl Bromide – Implications for U.S. Horticulture

In 1987, more than 160 countries including the United States, signed an international treaty to globally phase out the use of substances that contribute to the depletion of the ozone layer. Among the compounds listed in the agreement, better known as the Montreal Protocol, is methyl bromide (MB), an agricultural fumigant that facilitates plant growth and the trade of agricultural commodities. Signatories to the treaty agreed to an incremental phase out of these substances; in developed countries the reduction is as follows: 25 percent in 1999, 50 percent in 2001, 70 percent in 2003 and 100 percent in 2005. Developing countries have until 2015 to reach 100-percent reduction.

To allow more time to develop alternatives and minimize the economic damage to industries dependent on methyl bromide, the Environmental Protection Agency (EPA), temporarily approved certain exemptions to permit the continued use of these compounds beyond the designated phase out dates. These exemptions include quarantine and preshipment use. Rulemaking guidelines for critical and emergency exemptions are also being developed. [1]

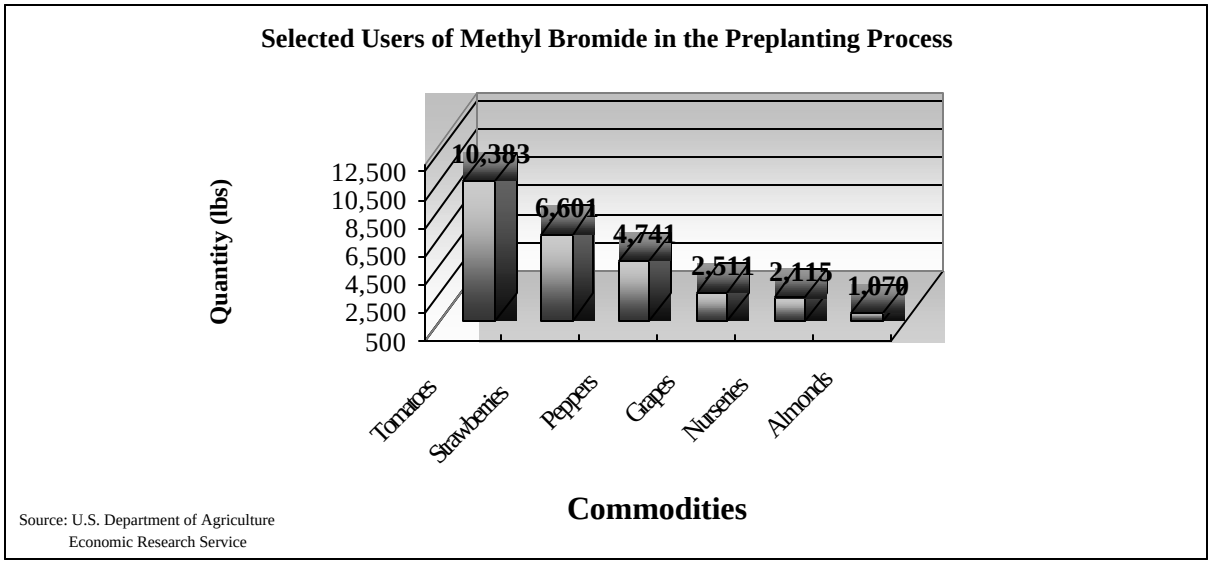
Background

Scientists over the years have discovered that the ozone layer has been slowly deteriorating, causing harmful ultra-violet rays from the sun to enter into the earth's atmosphere. One of the causes attributed to this deterioration is the use of ozone-depleting substances such as methyl bromide. In response to these findings, a group of countries signed an international treaty, entitled the Montreal Protocol, and agreed to stop using ozone-depleting substances.

In the horticultural industry, methyl bromide (also known as bromomethane) is used as an agricultural fumigant to control the spread of pests such as insects, rodents, and nematodes. It is also used for soil fumigation before the planting of various fruits, vegetables, ornamentals, and agricultural nurseries; for post-harvest fumigation of commodities in storage and prior to shipment; and for government-required quarantine treatment to prevent the spread of regulated exotic pests.[2]

[1] ***Methyl Bromide Phase Out: http://www.epa.gov; Facing the Phase out of MB, ERS, February 2000***

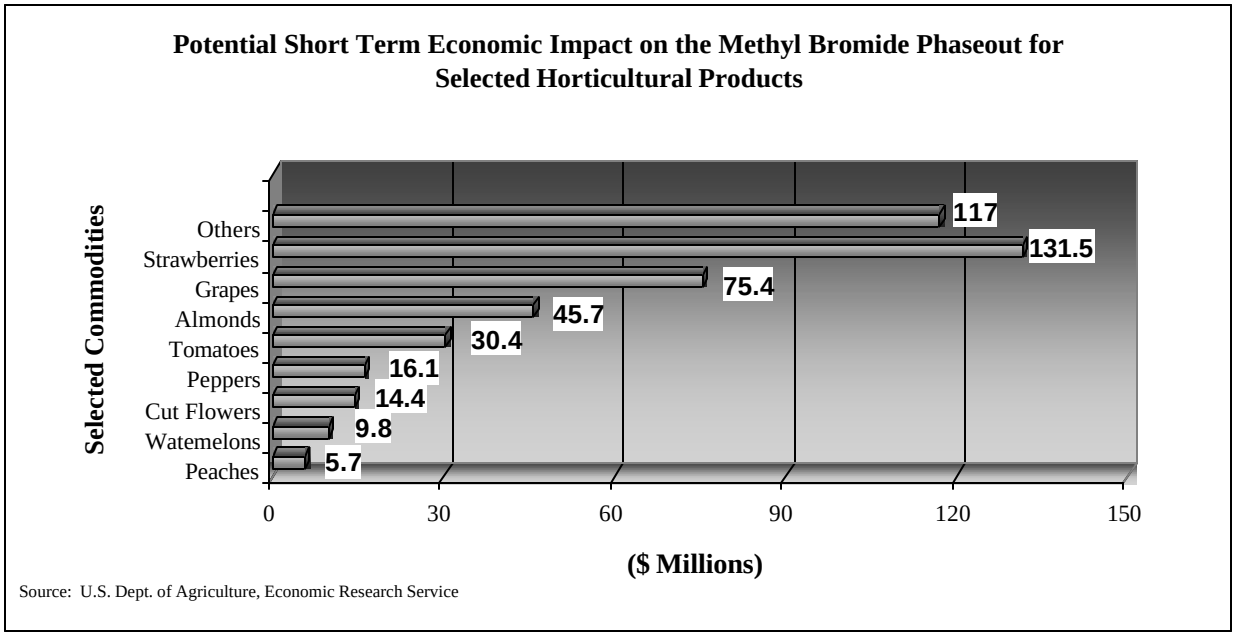
[2] USDA Homepage: www.usda.gov, methyl bromide



Economic Impact

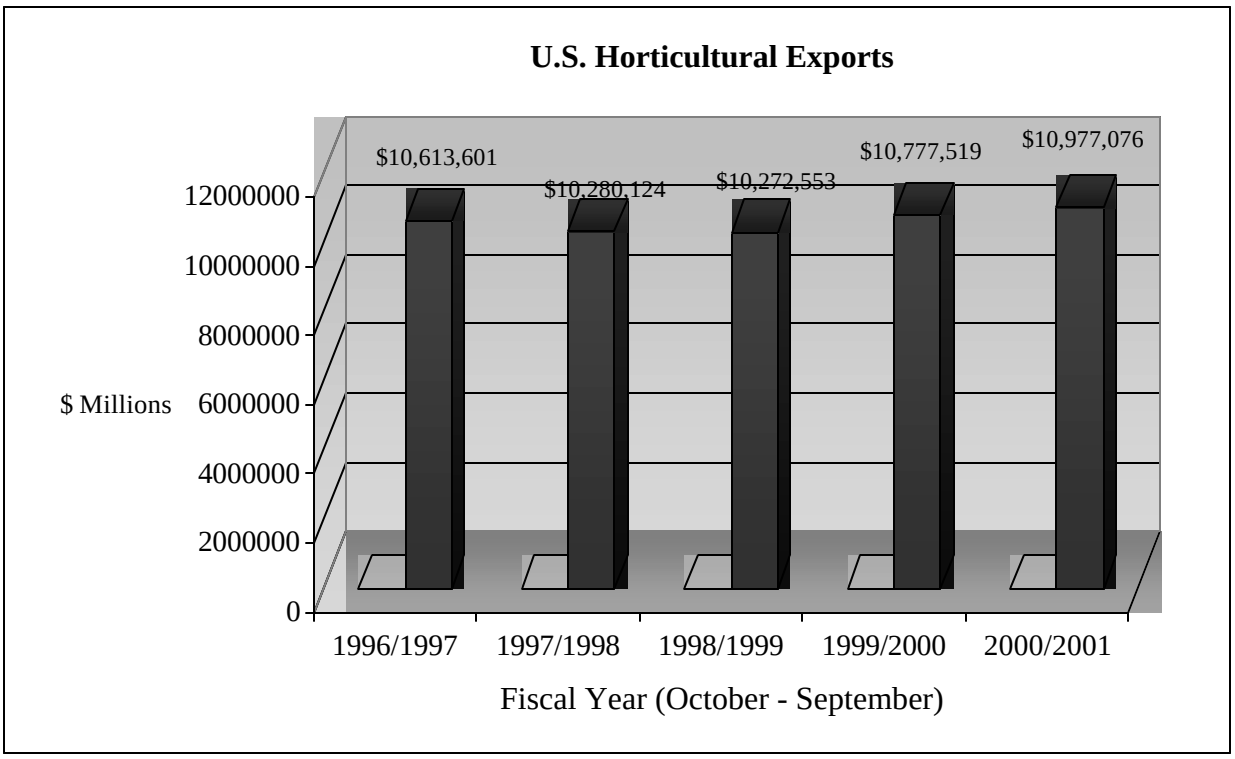
In light of the dependency that many horticultural growers have on methyl bromide and given the additional time developing countries will have in reducing their supplies of bromomethane, it is likely that the phase out of MB will place U.S. agricultural producers at a disadvantage when competing for export markets and could facilitate an increase of imports into the United States.

To assess the potential economic impact of the methyl bromide phase out on the U.S. horticultural industry, a study completed by the Economic Research Service and the National Center for Food and Agricultural Policy determined that the potential losses could reach $446 million in the short term. The horticultural crops most affected by the phase out include tomatoes, strawberries, peppers, grapes, nurseries, and tree nuts.



Trade Implications

Without any viable alternative, the phase out of the agricultural fumigant could lower crop yields and severely impact the horticultural industry, which reached a record $10.9 billion in exports in fiscal year (FY) 2001 (October 2000-September 2001). Separately, shipments of tree nuts totaled $1.1 billion for the October-September 2000/01 period. Fresh fruit exports amounted to $2.2 billion and fresh vegetable exports $1.3 billion. Some of the fastest growing international horticultural shipments could also be affected; among them exports of apples registering $416 million, grapes $394 million, and dried plums $152 million in FY 2001.



Source: U.S. Department of Commerce, Bureau of the Census

Exemptions

Quarantine and Preshipment

In response to concerns that U.S. enforcement of the methyl bromide phase out was more stringent than called for in the Montreal Protocol as well as trepidation that declining supplies could have a negative impact on the export and import of food products, the Environmental Protection Agency (EPA) announced several exemptions for the continued use of MB. The EPA, in July 2001, specifically announced an interim rule that exempts quarantine and preshipment applications of methyl bromide. Many governments require MB treatments to allow for the

import of agricultural commodities to prevent the spread of quarantine pests. These requirements are categorized under the quarantine exemption.

As defined in the Montreal Protocol, quarantine and preshipment applications exemptions are defined as follows:

- *"Quarantine applications are treatments to prevent the introduction, establishment, and/or spread of quarantine pests(including diseases), or to ensure their official control, where: (i) Official control is control performed or authorized by a national plant, animal or environmental protection, or health authority; (ii) quarantine pests are pests of potential importance to the areas endangered thereby and not yet present there, or, present but not widely distributed and being officially controlled."*[3]

- *"Preshipment applications are those non-quarantine applications applied within 21 days prior to export to meet the official requirements of the importing country or existing official requirements of the exporting country. Official requirements are those which are performed by, or authorized by, a national plant, animal, environmental, health or stored product authority."*[4]

To protect commodity trade from the adverse impacts of quarantine pest infestations and to ensure the safety of the supply of imported fruits and vegetables available to the general public, the EPA issued an interim final action to amend the accelerated phase out regulations that govern the production, import, export, transformation and destruction of methyl bromide, (MB) and other ozone-depleting substances. The amendment, in accordance with the Montreal Protocol, specifically creates a temporary exemption for the quarantine and preshipment treatments of methyl bromide through December 31, 2002. It also includes an exemption for purposes of compliance with APHIS requirements or with any international, federal, state or local sanitation or food protection standard as long as the applications are performed within 21 days prior to export. It also includes quarantine applications for interstate and inter-county treatments required to control quarantine pests. The EPA intends to announce a final rule that will delineate quarantine and preshipment exemptions before the end of year.[5] See the July 19, 2001 Federal Register, Part III, Environmental Protection Agency – 40 CFR Part 82 – Protection of Stratospheric Ozone: Process for Exempting Quarantine and Preshipment Applications of Methyl Bromide, Final Rule for additional details.

Critical and Emergency Use

In addition to the quarantine and preshipment exemptions, the EPA has been meeting with stakeholders in developing a criteria for establishing critical use applications. It will also initiate a rulemaking process that will delineate the use of methyl bromide for critical and emergency

[3] Westlaw, March 2002
[4] Westlaw, March 2002
[5] Federal Register July 2001, Westlaw, March 2002

treatments beyond the January 1, 2005 deadline. Exceptions for critical use will allow the use of MB in the following circumstances:

- *There are no technically and economically feasible alternatives or substitutes available to the user that are acceptable from the standpoint of environment and health and are suitable to the crops and circumstances of the nomination;*

- *All technically and economically feasible steps have been taken to minimize the critical use and any associated emission of methyl bromide;*

- *It is demonstrated that an appropriate effort is being made to evaluate, commercialize and secure national regulatory approval of alternatives and substitutes;*

- *The specific use is critical because the lack of availability of methyl bromide for that use would result in a significant market disruption; and*

- *Methyl bromide is not available in sufficient quantity and quality from existing stocks of banked or recycled methyl bromide, also bearing in mind the developing countries' need for methyl bromide;*

Emergency uses will allow a country to use up to 20 tons of MB in cases of pest outbreaks or infestations.

The Environmental Protection Agency is expected to issue a Federal Register notice sometime in 2002, soliciting public input to develop rules that will define critical and emergency use exemptions.

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